

## CLAIMS:

1. A patient monitoring system comprising:
  - a computer;
  - an input device coupled to the computer and configured to input patient information; and
    - first and second display screens coupled to the computer, the computer displaying a first portion of the patient information on the first display screen and a second portion of the patient information on the second display screen.
2. The apparatus of claim 1, wherein the patient information is displayed on a patient chart including patient vital signs taken at predetermined times over a predetermined period of time.
3. The apparatus of claim 1, wherein the input device includes at least one of a physiological monitor, a wireless data receiver, and a manual input device.
4. The apparatus of claim 3, wherein the physiological monitor includes at least one of a heart rate monitor, a temperature sensor, a blood pressure monitor, a blood oxygen level monitor, a scale, an EKG monitor.
5. The apparatus of claim 3, wherein the manual input device is one of a pen based input device, a keyboard, a mouse, a bar code reader, or a voice recognition input device.
6. The apparatus of claim 1, wherein the input device includes a physiological monitor coupled to the computer to provide a real time data input to the computer for storing and displaying patient information.
7. The apparatus of claim 1, wherein the first and second displays are coupled to a base.
8. The apparatus of claim 7, wherein the second display, the input device, and the computer are removable from the base as a separate module for transport with the patient.
9. The apparatus of claim 1, further comprising a third display coupled to the computer, the patient information being displayed on each of the first, second, and third display screens.

-44-

10. The apparatus of claim 8, wherein the third display, the input device, and the computer are separate from the first and second displays for transport with the patient.

11. The apparatus of claim 1, wherein the first display screen is  
5 larger than the second display screen.

12. The apparatus of claim 11, wherein the first and second displays are coupled to a base so that a top edge of the first and second displays are aligned with each other.

13. The apparatus of claim 12, wherein a portion of the larger first  
10 display screen adjacent a bottom edge of the first display screen provides a region for at least one of a menu display area, a pen-based input device, and a touch screen input device.

14. The apparatus of claim 12, wherein the smaller second display, the input device, and the computer are removable from the first larger display screen  
15 as a separate module for transport with the patient.

15. The apparatus of claim 1, wherein the computer is coupled to a communication network to transmit patient information to a remote location and to receive patient information from the remote location.

16. A system comprising:  
20 a computer including a memory;  
a medical device for treating a patient, the medical device including an indicator configured to provide a signal indicating when the medical device is in use to treat the patient; and  
25 *Not relevant per se* a coupler coupled to the computer for receiving the input signal from the indicator, the computer being configured to store the amount of time that the medical device is in use to treat the patient in the memory.

17. The apparatus of claim 16, wherein the computer is configured to generate a bill for use of the medical device based upon the amount of time that the medical device is used to treat the patient.

30 18. The apparatus of claim 17, wherein the medical device includes a unique identification so that the computer generates an itemized bill indicating the particular medical device used to treat the patient.

19. The apparatus of claim 16, wherein the indicator includes a wireless data transmitter and the coupler is a wireless data receiver.

20. The apparatus of claim 19, wherein the coupler is also configured to receive a signal from a wireless data transmitter badge worn by a caregiver when the caregiver enters a room in which the computer and the patient are located.

21. The apparatus of claim 20, wherein the computer records the amount of time that the caregiver is in the patient's room.

22. The apparatus of claim 21, wherein the computer is configured to generate a bill for caregiver time based upon the amount of time that the caregiver was in the patient's room.

23. The apparatus of claim 20, wherein the computer is configured to recognize a particular caregiver located in the room and automatically log the caregiver on to the computer.

24. A patient care computer system for use by a caregiver wearing an identification badge which includes a wireless data transmitter that uniquely identifies each caregiver, the <sup>A Y3</sup> apparatus comprising:

a computer including a memory for storing patient information;  
a display screen coupled to the computer;

an input device coupled to the computer for inputting patient information;

a wireless data receiver coupled to the computer; and  
means for detecting when a caregiver enters a room in which the computer and patient are located, the detecting means determining whether the caregiver is authorized to use the computer system and, if so, automatically logging the caregiver in to the computer system.

25. The apparatus of claim 24, wherein the computer automatically provides an indication of any messages for the particular caregiver logged in to the system on the display screen.

26. The apparatus of claim 25, wherein the computer is coupled to a communication network for receiving information and messages from a remote location and for transmitting information and messages to the remote location.

27. The apparatus of claim 25, wherein the messages include both voice mail messages and e-mail messages.

28. The apparatus of claim 24, wherein the input device includes at least one of a physiological monitor and a manual input device.

5 29. The apparatus of claim 24, wherein the computer system determines the amount of time that the particular caregiver is located in the room and stores the time in the memory.

10 30. The apparatus of claim 29, wherein the computer system generates a bill for caregiver time based upon the actual amount of time that the caregiver is in the room treating the patient.

31. The apparatus of claim 24, wherein the computer system is configured to log on all authorized caregivers within the room so that all the caregivers can access the system.

15 32. The apparatus of claim 24, further comprising a medical device for treating the patient, the medical device including an indicator configured to provide a signal indicating when the medical device is in use to treat the patient, the wireless data receiver being configured to receive a signal from the indicator so that the computer stores the amount of time that the medical device is in use to treat the patient in the memory of the computer.

20 33. The apparatus of claim 32, wherein the computer is configured to generate a bill for use of the medical device based upon the amount of time that the medical device is used to treat the patient.

34. A system comprising:  
means for monitoring at least one physiological condition of a patient  
25 on a real time basis;

means for recording information related to a treatment of the patient and the time that the treatment was given to the patient; and

30 means for determining the effectiveness of the treatment of the patient by further monitoring the physiological conditions on a real time basis after the treatment.

35. The apparatus of claim 34, wherein the treatment includes at least one of a drug treatment, an IV treatment, and a therapy device treatment.

36. The apparatus of claim 34, wherein the patient is located on a patient support surface and the treatment includes a therapy performed by the patient support surface including at least one of rotational therapy, percussion therapy, vibration therapy and thermal treatment therapy.

5 37. The apparatus of claim 34, wherein the treatment is a therapy device performing therapy on the patient, the system including a computer for monitoring the amount of time that the therapy is performed.

10 38. The apparatus of claim 34, wherein the system includes a computer and a display screen coupled to the computer, the computer displaying the physiological conditions of the patient on a real time basis and also displaying the times that the treatments occur on the display screen so that a caregiver can monitor the effectiveness of the treatments.

15 39. A computer system assigned to a patient or to a bed, cart or other device upon which the patient rests or with which the patient is associated, the system comprising a computer, a plurality of devices for sensing various physical conditions and characteristics of the patient, each device having an output coupled to the computer, and a display arranged to present information related to the patient.

40. The system of claim 39, wherein the system comprises a plurality of input devices for inputting data and instructions concerning the patient.

20 41. The system of claim 39, wherein the system is configured to store and retrieve data concerning the patient and the sensing devices and to display such data over a period of time to show relationships on a time basis.

42. The system of claim 39, wherein the system comprises a memory in which the patient's history is stored for retrieval and display.

25 43. The system of claim 39, wherein the system comprises sensing devices including at least one of heart rate sensors, respiratory rate sensors, neurological monitoring sensors, and temperature sensors.

44. The system of claim 39, wherein the system comprises means for inputting fluid, electrolyte and nutrition data into the memory on a time basis.

30 45. The system of claim 39, wherein the system comprises a communication network providing for remote monitoring of patient data and remote inputting of data and instructions.

-48-

46. The system of claim 39, wherein the system further comprises a video imaging input to the computer to provide images of the patient.

47. The system of claim 39, wherein the system further comprises ultrasound image input to the computer.

5 48. The system of claim 39, wherein the system further comprises an x-ray image input to the computer.

49. The system of claim 39 in which the patient status and condition is stored and used for a time-based presentation on the display.

10 50. A system for monitoring patient information, the computer system comprising:

a processor;  
a memory coupled to the processor;  
a user interface coupled to the processor to permit a caregiver to input instructions into the system;

15 a display screen coupled to the processor;  
a power supply coupled to the processor; and  
a connector module configured to couple the system to a medical device including at least one of a physiological monitor, a treatment device, and a therapy device, the medical device using the processor, the user interface, the power supply, and the display of the system to operate the medical device, thereby reducing redundant components in the medical device.

20 51. The apparatus of claim 50, wherein the medical device includes at least one of a vital signs monitor, an IV pump, a ventilator, a defibrillator, a compression boot and the like.

25 52. The apparatus of claim 50, wherein the user interface includes a voice recognition input device.

53. The apparatus of claim 50, wherein the user interface is a graphical user interface.

30 54. The apparatus of claim 50, wherein a plurality of medical devices are coupled to the computer system, the computer monitoring output signals from the medical devices on a real time basis to provide a time-based presentation of patient information on the display screen.

55. A patient monitoring system comprising:  
a computer;  
a display screen coupled to the computer; and  
a plurality of physiological monitors coupled to the computer, the  
5 computer displaying at least two indicators on the display screen related to at least two  
of a heart rate signal, a respiratory rate, fluid/electrolyte/nutrition information,  
temperature, neurological monitoring, and blood pressure.
56. The system of claim 55, wherein at least three indicators are  
displayed.
- 10 57. The system of claim 55, wherein at least four indicators are  
displayed.
58. The system of claim 55, wherein at least five indicators are  
displayed.
- 15 59. A patient assist apparatus comprising:  
a base having a plurality of casters;  
a support coupled to the base;  
an IV pole coupled to the support; and  
a brake mechanism coupled to at least one of the casters and to the  
support, brake mechanism being configured to brake the at least one caster when a  
20 predetermined weight is applied to the support.
60. The apparatus of claim 59, further comprising a seat coupled to  
the support, the brake mechanism being configured to brake the at least one caster  
when the predetermined weight is applied to the seat.
- 25 61. The apparatus of 59, further comprising a handle assembly  
coupled to the support, the brake mechanism being configured to apply the brake to  
the at least one caster when the predetermined weight is applied to the handle  
assembly, and a coupling mechanism configured to secure the handle assembly to the  
support, the coupling mechanism being adjustable to permit a height of the handle  
assembly on the support to be adjusted.
- 30 62. The apparatus of 59, further comprising a spring configured to  
bias the support upwardly relative to the base and a link coupled between the support  
and the brake mechanism, the support moving downwardly when the predetermined

PCT/US2008/063550

-50-

weight is applied to the support, thereby moving the link to actuate the brake mechanism.

63. A walker apparatus comprising:

a base;

5 a support coupled to the base, the support including a handle configured to be gripped by a patient;

a seat having a first end portion and a spaced apart second end portion, the first end portion being pivotably coupled to the support so that the seat is movable between an upwardly pivoted seating position and a downwardly pivoted storage

10 position; and

a seat support pivotably coupled to the second end portion of the seat, the seat support being movable from a first position aligned generally parallel with the seat and a second position aligned transverse to the seat to support the seat in the seating position.

15 64. The apparatus of claim 63, further comprising a coupler configured to attach the seat support to the seat, the coupler being configured to hold the seat support in the second position automatically when the seat is moved to its upwardly pivoted seating position.

20 65. The apparatus of claim 63, wherein the base includes a plurality of casters. 66. The apparatus of claim 63, wherein the seat support is formed to include first and second spaced apart legs configured to engage the base to support the seat in the seating position.

67. The apparatus of claim 63, wherein the seat support is formed from a continuous elongated piece of material configured to define the seat support.

25 68. The apparatus of claim 63, wherein the seat is aligned generally perpendicular to the support when the seat is in its upwardly pivoted seating position and the seat is aligned generally parallel to the support when the seat is in the downwardly pivoted storage position.

30 69. A patient assist apparatus comprising:  
a walker having a handle to assist movement of a patient;  
a computer coupled to the walker;  
a display coupled to the computer; and

a movable arm having a first end coupled to the walker and a second end coupled to the display.

70. The apparatus of claim 69, wherein the walker includes a base having a plurality of casters and a support coupled to the base, the handle being  
5 coupled to the support.

71. The apparatus of claim 69, further comprising a plurality of IV poles coupled to the support.

72. The apparatus of claim 69, further comprising a battery coupled to the walker and the computer.

10 73. The apparatus of claim 72, further comprising a battery charger coupled to the walker and the battery.

74. The apparatus of claim 69, further comprising an isolation transformer coupled to the walker.

15 75. The apparatus of claim 69, further comprising an input device coupled to the computer and configured to input patient information.

76. The apparatus of claim 75, wherein the display includes first and second display screens coupled to the computer, the computer displaying a first portion of the patient information on the first display screen and a second portion of the patient information on the second display screen.

20 77. The apparatus of claim 69, wherein the input device includes at least one of a physiological monitor, a wireless data receiver, and a manual input device.

25 78. The apparatus of claim 77, wherein the physiological monitor includes at least one of a heart rate monitor, a temperature sensor, a blood pressure monitor, a blood oxygen level monitor, a scale, an EKG monitor.

79. The apparatus of claim 77, wherein the manual input device is one of a pen based input device, a keyboard, a mouse, a bar code reader, or a voice recognition input device.

30 80. The apparatus of claim 75, wherein the input device includes a physiological monitor coupled to the computer to provide a real time data input to the computer.

81. A patient assist apparatus comprising:

-52-

- a base having a plurality of casters;  
a support coupled to the base, the support having first and second sides;
- a latch mechanism coupled to the first side of the support, the latch mechanism being configured to couple the support to a patient support apparatus; and  
a handle assembly coupled to the support, the handle assembly including first and second handles movable from a first orientation located on the first side of the support to provide support handles for a patient to a second orientation located on the second side of the support to provide push handles for use when the support is coupled to the patient support apparatus.
82. The apparatus of claim 81, further comprising a locking mechanism configured to secure the first and second handles in the second orientation.
83. The apparatus of claim 81, wherein the patient support apparatus is a bed.
84. The apparatus of claim 81, wherein the patient support apparatus is a wheelchair.
85. The apparatus of claim 81, further comprising a computer coupled to the support, the computer including a physiological monitoring module configured to receive data from the patient.
86. The apparatus of claim 85, further comprising a display screen coupled to the computer and a movable arm having a first end coupled to the support and a second end coupled to the display screen.
87. The apparatus of claim 81, further comprising a coupling mechanism configured to secure the handle assembly to the support, the coupling mechanism being adjustable to permit a height of the handle assembly on the support to be adjusted.
88. A patient computer system comprising:  
a display having first and second display screens located in a room;  
a cart configured to move with a patient outside the room and to remain with the patient inside the room;  
a computer coupled to the cart; and

a third display screen coupled to the cart, the computer being coupled to the third display screen and being coupled to the first and second display screens when the cart is in the room.

89. The apparatus of claim 88, wherein the computer includes first  
5 and second video cards, the first video card being configured to drive the first and third display screens, the second video card being configured to drive the second display screen.

90. The apparatus of claim 88, further comprising an input device coupled to the computer and configured to input patient information.

10 91. The apparatus of claim 90, wherein the computer displays a first portion of the patient information on the first display screen and a second portion of the patient information on the second display screen.

15 92. The apparatus of claim 90, wherein the input device includes at least one of a physiological monitor, a wireless data receiver, and a manual input device.

93. The apparatus of claim 92, wherein the physiological monitor includes at least one of a heart rate monitor, a temperature sensor, a blood pressure monitor, a blood oxygen level monitor, a scale, an EKG monitor.

20 94. The apparatus of claim 92, wherein the manual input device is one of a pen based input device, a keyboard, a mouse, a bar code reader, or a voice recognition input device.

95. The apparatus of claim 90, wherein the input device includes a physiological monitor coupled to the computer to provide a real time data input to the computer.

25 96 A display for a computer, the display comprising:  
a housing having an interior region;  
a first display screen located in a first portion of the interior region of the housing; and

30 a second display screen located in a second portion of the interior region of the housing, the first and second display screens being coupled to the computer so that the computer displays information on both the first and second display screens.

-54-

97. The apparatus of claim 96, wherein the housing includes a first portion and a second portion coupled to the first portion by a waterproof seal.

98. The apparatus of claim 96, wherein the information displayed on the patient chart including patient vital signs taking a predetermined times over a  
5 predetermined time period.

99. The apparatus of claim 96, further comprising a microphone located in the interior region of the housing.

100. The apparatus of claim 96, further comprising a video camera located in the interior region of the housing.

10 101. The apparatus of claim 96, wherein the first display screen and the second display screen each provide a touch screen input device.